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Question 1 Discuss the social and ethical implication of nanotechnology?

Many of the application arising from nanotechnology may be the result of the convergence of several technologies. The technological development and its implementation do not operate in vacuum and nanotechnology will be influenced by other scientific developments, social reactions and local and global politics. The extreme supporters claim that nanotechnology can rebuild the human body from within and effectively abolish death, while its critics fear that instead, it could do away with life, by turning the surface of earth into an uninhabitable grey mass. However, the social science reading can help us understand nanotechnology in better way than driving forces behind the technology development process and the issue of inequalities and economic divides and how society deals with risks under uncertainty. Nanotechnology is the fastest growing industry than any other in the recent history.

While nanotechnology offers opportunities for society, it also involves profound social and environmental risks, not only because it is an enabling tech to the biotech industry, but also because it involves atomic manipulation and will make possible the tussing of the biological world and mechanical. There is a critical need of social implication evaluation of all nanotechnologies. There is a possibility that domination of nano-robots in every day life will make human intervention difficult, if not impossible. Another risk is the hazard posed to human life and health by nano particles inhaled in the factory and elsewhere. Environmentalists also question the safety of nano particles. The first concern is biological and chemical effects of nanoparticles on human bodies or natural ecosystems. The second concerns the issue of leakage, spillage, circulation and concentration of nanoparticles that would cause a hazard to bodies or ecosystems. The potential dangers of nanotechnologies includes rampant nano devices, military weapons, or invasive surveillance. On ethical side the issue of intellectual properties as well as the access of nano technology to developing countries have to be addressed. The public policies to protect our society from harmful development are another concern based on strong foundation of ethics.

If technology is fascinated towards control and over taking of nature, nano-technology is mainly concerned with the control of nature at the most basic level, that is level of atomic building blocks. However nanotechnology has been generating new ethical dilemmas and in future we have to necessarily negotiate with a big deal of uncertainties. The ethical theories have to be reformulated with changing context that had predominantly influenced by nanotechnology.



Question 2 (A) Technology gives birth to inequality. Critically analyze this claim.  
 Technology is costly and need money to use the technology. World is already divided ~~and~~ with the gap or rich and poor, developed and developing. Hence a poor or developing nation is out of reach of technology, and even they have much investment or fund to open the research lab and do the innovation. Hence we can say Technology is accessible to those only who have huge money in their pocket to avail the technical services like applications, nanotechnology and many others.  
 Similarly nanotechnology has not only going to change significantly but also producing inequalities in society through monopoly of technology and control over many nations and social groups. Comparing the dawning of nanotechnology revolution to previous industrial revolutions, etc. raised the question of a decline in the well being of poor people and increased disparity between rich and poor, as only those with sufficient wealth may have access to the technology.

2

(B) Machine can replace Human being. Do you agree with this statement or not? Give reasons for your answer.  
 Machine can't replace human being at all, but at some point it will ease the ~~task~~ of human being as a hand of human. For example Computer and other technologies or machines need human intervention to function. These application didn't function without help of human. Machine can only change the skill of human. The repeated task can be automated so that a person need not to do same work continuously but now he/she could focus on some other things and research to utilize the machine and use the machine as much as possible.  
 These days artificial intelligence based application and machines are in trend but these applications only gives you and generate the content what on they already trained. They can't think like human and generate new idea and innovation.

Question

3B

Critically evaluate the stand of Neurotheology on the mystical experience. The mystical experience have a neurological basis and spirituality and the transcendental feeling of being united with the whole cosmos is evoked and stimulated by brain. There are some basic structural and functional patterns that essential for the mystical experience. Some of brain parts involve

- are -
- A highly developed complex brain and mind connections.
  - During the mystic experience some area of the Brain are metabolically more active than other although the Brain works as a whole.
  - the pre frontal neuronal connections especially the right orbital and medial surfaces
  - the temporal lobes and parts of the parietal lobes
  - the limbic system
  - The rest of the brain acting in coordination

Every mystical experience is highly individual experience and the mystic



is never able to express and interpret it for others as he actually experienced it. The mystic experience may take myriad forms because extensive areas of the right brain and involved in its manifestations. Mystic experience may originated in the brain from energies impinging on the ~~control~~ cortex from other dimensions.

Neurological process that has evolved to allow us humans to transcend material existence and acknowledge and connect with a deeper more spiritual part of ourselves perceived of as an absolute, universal reality that connects us to all that is.

Question

3d

Explain the idea of democratization of Technology.

Philosophers are concerned about the Technology and came with different perspectives of philosophy of Technology. Two dominant streams in this regards are theories of technological determinism and social construction. The interface of Technology and Society and rational and ethical understanding of that situation is the main concern of the philosophers. Marxist thought find technology as a means of liberation argues for a socialization of its wealth by abolition of classes.

Feenberg is interested in the possibility of alternative nationalizations, particularly forms of nationalization necessary for socialism which would embody ~~responsibility~~ responsibility for humanity. He strongly proposes that a technological society requires a democratic ~~public~~ public sphere sensitive to technical affairs. Most of these perspective are evolved from the reflections on industrial society. These views have relevance for the context of nano society too. Nano technology has not only going to change significantly but also producing inequalities in society through monopoly of technology and control over many nation and social groups. Democratization of the Technology is an immediate concern raised by conscious scholars and civil society. Currently corporations, developed nations entrepreneurs and technologists are the main driving forces behind nano technology. Mostly the research and its products are market oriented. There is a need to understand the driving forces and the process of decision making in relation to nano technological development. As a result Technology has become crucial for economic growth of nations. At this juncture political regulation and consensus is required to control technology change.

Question 4

A

Discuss the philosophical implications of chaos theory.

Chaos theory shows the way out that chaos in non linear dynamical system is not random but it has got a hidden order that helps us in making short term predictions as well as long term trends. Thus the alternative which chaos theory opens up reconciling both determinism and indeterminism yields meaningful and scientific output. This system is sensitive to initial condition and bounded. Determinism in chaos would mean that chaos does not arise from same lawless behaviour governed



~~entirely~~ entirely by law. Chaos was once considered unreliable, uncontrollable and therefore unusable, but scientists have turned the situation topsy-turvy by making chaos manageable, exploitable and even invaluable.

The ability to control chaos in the dynamical systems would mean that chaos theory can be put to work in a wide variety of field. From laser to management technologies, chaos theory has proved to be of great value. Some of the application of chaos theory in mechanical systems include laser, encryption, chaotic circuit, engine systems and also in space and satellite mission. In natural systems application can be seen in fisheries, ecology and in living systems it ranges from economy, management leadership and military systems. Thus chaos theory in action has set the ball rolling not only with an array of scientific discoveries from mechanical, living and complex systems, but also with far reaching philosophical implications.

Question 4

B What is Turing Machine Approach? Explain  
The Turing test as named after Alan Turing was designed to provide a satisfactory operational definition of intelligence. Turing defined that intelligent behavior as the ability to achieve human level performance in all cognitive tasks to fool an interrogator. In his computing machinery and intelligence Turing says the new form of the problem can be described in terms of a game which we call the imitation game. It is played by a man (A) a woman (B) and an interrogator (C) who may be of either sex. The interrogator stays in a room apart from the other two. The object of the game for the interrogator is determine which of the other two is the man and which is the woman. He or she knows them by labels X and Y and at the end of the game he or she says, either X is A and Y is B or X is B and Y is A. The interrogator is allowed to put questions to A and B. Thus C will X please tell me the length of his or her hair? Now suppose X is actually A then A must answer to the question. It is A's object in the game to try to cause C to make the wrong identification. The supporter of AI holds that the human brain functions like a Turing Machine which carries out all sets of complicated computations.

4F

write a note on the idea of Dasein.  
Dasein is German word that means existence or presence. According to Heidegger, however, it must not be mistaken for a subject that is something definable in terms of consciousness of a self. Heidegger was adamant about this distinction, which carried on Nietzsche's critique of the subject. Dasein as a human being that is constituted by its temporality, illuminates and interprets the meaning of being in time. Heidegger chose this term as a synonym for human entity in order to emphasize the critical importance being has for our understanding and interpretation of the world.

Heidegger attempted to maintain the definition of Dasein as well all are in our average everydayness. Dasein doesn't spring into existence upon philosophical exploration of itself. Heidegger intended Dasein as a concept in



Order to provide a stepping stone in the questioning of what it means to be. When Dasein contemplates this, what seems circular in ontic terms, is recursive in an ontological sense, because it brings the necessary appearance of time to the center of attention.

4 D

Discuss "The laws of thought approach" of Artificial Intelligence. Right thinking is the inferential character of every reasoning process. Aristotle in his famous syllogism provided patterns of argument structures that always give correct conclusions from given correct premises. In the syllogism the laws of thought play a vital role because these give law the right explanation of syllogistic inference. There are three laws of thought recognised by logicians. These are traditionally called law of identity, the law of contradiction and the law of excluded middle. These laws of thought are appropriate to different contexts. The formulations appropriate as follow:

- a) The law of identity asserts that if any statement is true then it is true. The law asserts that every statement of the form  $P \supset P$  is true and that every such statement is tautology.
- b) The law of contradiction asserts that no statement can be both true and false. This law asserts that every statement of the form  $P \wedge \sim P$  is false, that is every such statement is self-contradictory and its negation is logically true.
- c) The law of excluded-middle asserts that any statement is either true or false. This law asserts that every statement of the form  $P \vee \sim P$  is true, that is every such statement is a tautology.

In the 'laws of thought approach' to artificial intelligence, the whole emphasis is on correct syllogistic inference. For example -

"Socrates is a man;  
All men are mortal;  
Therefore, Socrates is mortal."

In this inference, the conclusion is based on the premises according to the rules of inference.

Question

5A

Heidegger's idea of death,

Martin Heidegger, who revives the pre Socratic tradition, the human person is being towards death. Death does not lie at the end of life it pervades the entire life. As soon as I am born I enter into the flow of time spanning from birth to death. Death is the final condition the end of my being thrown. Death is my way of being in the world, this is the finitude that characterizes all human experience. However, death is unique and singular to everyone. If there is something that is not shared, it is my death; it is my death it is my own but it remains non-representable. It always escapes me even when I will be dead, I do not possess it. Death is a part of my everything which escapes me.



5B Neurotheology — Neurotheology is the study of correlations of neural phenomena with subjective experiences of spirituality and hypotheses to explain these phenomena using neurological terms. Neurotheology in other words is primarily concerned with identifying the mechanism underlying brain function leading to the conceptualization of God, Moral values, spiritual experience, guilt, faith and transcendental longings that have become an integral part of human personality. It does not address the subject of experience, beliefs, inner promptings that may belong to another dimension of reality are also necessarily brain based. In fact the word Neurotheology at first glance would seem to combine neurological science with religious doctrine.

5C Absolute Unitary Being — The absolute unitary being is the form of mystical experience where the participant experiences an obliteration of the self-other dichotomy. She feels totally one with such a being thereby giving up her own identity. It is believed that posterior superior parietal lobe is responsible for the sense of space and the distinction of Subject and object in our normal perception. While the total deafferentation of the left PSPL result in the obliteration of the self-other dichotomy the deafferentation of the right PSPL generates a sense of absolute transcendence wholeness.

5F The Julia set — The Julia set was discovered by Gaston Julia and Pierre Fatou. The Julia set shares every close relation with Mandelbrot set. It is the difference in function iteration that separates Julia set and Mandelbrot set. The Mandelbrot set iterates  $z = z^2 + c$  with  $z$  always starting at 0 and varying the  $c$  value, the Julia set iterates  $z = z^2 + c$  for a fixed  $c$  value and varying  $z$  value, while the Julia set in the dynamical space or the  $z$  plane, the Mandelbrot set is in the parameter space or  $c$  plane.

5G Hyperreal — Hyperreal is used in semiotics and postmodern philosophy to describe a hypothetical inability of consciousness to distinguish reality from fantasy, especially in technologically advanced cultures like ours. Hyperreality is a means to characterize the way consciousness defines what is actually real in a world where a multitude of media can radically shape and filter an original event of experience. Most aspects of hyperreality can be thought of as reality by proxy. Thus contemporary society blurs the distinction between real, imaginary and hyperreal. Though for practical purposes such words are still useful, in fact the blurring of the boundaries between them is a characteristic feature of contemporary society.